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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/608,939 | 06/26/2003 | Bradley C. Sammann | 02-640 | 6956 |
| 34704 | 7590 | 11/01/2004 | EXAMINER | |
| BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510 | | | KIM, TAE JUN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3746 | |

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/608,939 | SAMMANN ET AL. |
| | Examiner | Art Unit |
| | Ted Kim | 3746 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 16 and 17 is/are allowed.
- 6) Claim(s) 1,2,7,8 and 10 is/are rejected.
- 7) Claim(s) 3-6,9 and 11-15 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>6/18/04 & 6/26/03</u> . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 7, line 2, "40" should be – 4 –.

Appropriate correction is required.

Claim Objections

2. Claims 4, 6, 11 are objected to because of the following informalities: "high" and "low" shafts is not meaningful without a modifier, e.g. high *pressure* shaft or high *speed* shaft,

claim 11, line 12, "portion" should be –portion--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Pon (2,888,803). Pon teaches a turbine engine comprising: a compressor section 12; a turbine section 26; a circumferential array of combustion chamber conduits 11, the conduits being downstream of the compressor section 12 and upstream of the turbine section 26 and having first and second ports; and means 13' (Fig. 4) for directing oxygen-containing

gas from the compressor section to the combustion chamber conduits so as to cyclically: feed a charge of said gas into each of the conduits through the first port 13' of such conduit (see combustion conduit 10'b and 10'd); and permit discharge of products of combustion of said charge and a fuel through said first port 13' and said second port (downstream end, see combustion conduits 10'a and 10'c); means for directing said products of combustion of said charge from said first port and said second port to said turbine section 26 (note that fluid exiting 10'a and 10'c will enter the other combustion conduits 10'b and 10'd and thus exit therefrom to the turbine) and mixing said products with a flow from the compressor bypassing the combustion chamber conduits (see e.g. the flow in 11 on the bottom of Fig. 1) so as to present the turbine section with a circumferentially uniform flow; a plurality of igniters 20, each of which is positioned relative to an associated one of the conduits to ignite the combustion of the charge in said associated conduit.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Marchal et al (2,748,564). Marchal et al teach a turbine engine comprising: a compressor section 2; a turbine section 8; a circumferential array of combustion chamber conduits 4, the conduits being downstream of the compressor section 2 and upstream of the turbine section 8 and having first (near 6) and second ports (near 5); and means for directing oxygen-containing gas from the compressor section to the combustion chamber conduits so as to cyclically: feed a charge of said gas into each of the conduits through the first port (near 6) of such conduit; and permit discharge of products of combustion of said charge and a

fuel through said first port and said second port (note that as there is no valving the pressure pulse (see Fig. 3) will inherently cause some back flow out the first port).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Pon or Marchal et al, as applied above, and further in view of Klees of the IDS. Pon and Marchal et al teach various aspects of the claimed invention but do not teach the use of bypass air in a turbofan configuration. Klees teaches it is old and well known to adapt turbine engines without a fan to turbofan configurations with bypass air in order to reduce noise, as is also well known in the art employing a fan also increases thrust and/or fuel efficiency. Klees also teaches that it is old and well known to employ the claimed range of core flow between 1:1 and 1:3, i.e. a bypass ratio of 1.0 and 3.0 (e.g. col. 6, lines 34+ and col. 14, lines 14+) as being well known in the art for low bypass ratio turbofans. It would have been obvious to one of ordinary skill in the art to employ a fan configuration, as taught by Klees and in the flow ratios taught by Klees, in order to reduce noise and/or increase thrust and/or increase fuel efficiency.

Allowable Subject Matter

8. Claims 3-6, 9 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. Claims 11-15 are objected to but would be allowable if rewritten to correct the spelling error noted above.
10. Claims 16, 17 are allowed.

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 703-308-2631 until approximately November 22 at which point the telephone number will be 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are 703-872-9306 for Regular faxes and 703-872-9306 for After Final faxes.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler, can be reached on 703-306-2772.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861. General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>

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